

M.Sc.

2014

2nd Semester Examination

ZOOLOGY

PAPER—ZOO-204

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer all questions of the following.

(Group—A)

(Parasitology)

1. Answer any *two* questions of the following : 2×2
- (a) Define Parasitism with example.
 - (b) What is glycocalyx ? Mention its function.

(Turn Over)

- (c) i) What is Phoresis? Give example.
- ii) Enlist the cytoskeletal Proteins found in trophozoite of Giardia.
- (d) Define molecular mimicry with example.

2. Answer any *two* questions of the following : 4×2

- (a) What do you mean by Mechanical and Biological transmission? Give example.
- (b) Enumerate the structure and composition of trematode legument.
- (c) Write the differences between the hard ticks and soft ticks. Mention the control measures of Ticks.
- (d) Discuss the role of CS Protein in sporozoites and liver stages of *Plasmodium sp.* in immunity.

3. Answer any *one* question of the following : 8×1

- (a) Describe briefly about the life cycle of *Schistosoma sp.* Mention its pathogenesis and Prophylaxis.
- (b) Discuss briefly the host and environmental factors in epidemiology of filariasis. What do you mean by cyclozoonosis and metazoonosis?

(Group-B)
(Biotechnology)

4. Answer any *two* questions of the following : 2×2

- (a) What is VNTR? Give example.
- (b) Give example of two cancer biomarkers and two biomarkers for heart diseases.
- (c) What are the optimum Physics-Chemical parameters for microbial degradation?
- (d) Mention four uses of biosensor.

5. Answer any *two* questions of the following : 4×2

- (a) Distinguish between cosmid vector and shuttle vector.
- (b) Mention the criteria for the selection of suitable earthworm species for vermicomposting.
- (c) Draw and describe different components of a biosensor.
- (d) What do you mean by restriction mapping? Give example.

6. Answer any *one* question of the following : 8×1

- (a) What is bioremediation? Briefly describe *In-Situ* bioremediation process. Add a note on oil eating bug or superbug.
- (b) Write the principle of DNA finger printing. Discuss briefly the procedure and application of it.
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